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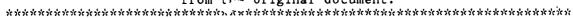
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#### **ABSTRACT**

A study was conducted at Antelope Valley College in California to explore the use of multiple measures in placement recommendations by examining variables potentially associated with success in writing, reading, and math courses. The study sample was all students who were assessed and enrolled in reading and writing courses in fall 1990, spring 1991, fall 1992, and spring 1993; and students enrolled in math courses in fall 1993 and spring 1994. Variables examined for their relationship with course success were age, high school grade point average (GPA), high school completion status, recency of formal schooling, years of high school English, grade in last English and math classes, highest 'evel math class completed, recency of last math class, units planned and work hours planned. Chi-square analyses indicated that: (1) for writing courses, grade in last English class, units planned, and recency of schooling were strongly associated with success; (2) for reading courses, years of high school English, work hours planned, and recency of schooling were strongly associated with success; and (3) for math courses, success was strongly associated with high school grade point average, highest math class completed, grade in last math class, units planned, and recency of schooling. A number of cases were examined to measure the impact of multiple measures on placement recommendations, revealing that the majority of impact from this weighting falls on borderline scores. Though multiple measures are applied at the front end of the process, placement recommendations can be appealed through the prerequisite challenge process. (KP)

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MULTIPLE MEASURES IN PLACEMENT RECOMMENDATIONS: AN EXAMINATION OF VARIABLES RELATED TO COURSE SUCCESS

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September 29, 1994

**BEST COPY AVAILABLE** 

# INTRODUCTION AND BACKGROUND

Consistent with Title 5 regulations concerning matriculation, Antelope Valley College has applied multiple measures in making placement recommendations for writing, reading, and math courses. During the process of administering placement exams, the college collects additional information on each student (demographics, educational background, future educational plans, etc.). This additional information is collected by means of a survey (see Appendix 1). When the placement exams are scored, this additional information is also entered into the assessment database. The result of this assessment process is a profile of the student. This profile culminates in a "Counseling Report" (see Appendix 2) which provides a summary of the student's background information along with score results from the placement exams. Based on cut scores for the exams, initial placement recommendations are made.

Historically, during the registration process students interfaced with a counselor or instructional faculty advisor to discuss course placement and selection. During these interfaces, the placement test results, the additional information on the counseling report, and other data (transcripts, etc.), would be used as multiple criteria to render placement recommendations. Even though there was considerable variability in how the additional criteria were evaluated, at least measures beyond test scores were utilized. However, beginning with the summer term 1994, the College implemented phone registration. As a result of this new registration process, the "interfaces" that used to occur during registration are less frequent if they occur at all. The net impact of these changes is that the College lost its primary vehicle for applying multiple measures in placement recommendations. Because of the College's commitment to using multiple measures in placement it became imperative that a new system for utilizing multiple measures be developed.

# A NEW MULTIPLE MEASURES SYSTEM

A survey of other community colleges found two principle methods being used to apply multiple measures in placement recommendations. One method involves the identification of variables related to success in courses (usually through multiple or logistic regression). Once these variables are identified, a weighted formula is developed which predicts the probability of a student achieving a particular grade based on these variables. The other method also identifies variables associated with course success (through multiple or logistic regression, crosstabulations, expectancy tables, etc.). Once these variables are identified the student's raw score on the placement exams are adjusted. These scores are typically adjusted by adding points for positive predictors and subtracting points for negative predictors.

The college chose the latter method mentioned above for three reasons. First, this method could be integrated into existing assessment software and systems without drastic modifications. Second, the system would be easily understood by students who often have questions about their placement recommendations. Third, this method would standardize the weighting and application of additional criteria in placement recommendations.



# **METHODOLOGY**

# **Data Source**

The data source consisted of all students who were assessed and were enrolled in writing, reading, and math courses. For reading and writing courses the data was drawn from the Fall 1990, Spring 1991, Fall 1992, and Spring 1993 semesters. For math courses the data was drawn from the Fall 1993 and Spring 1994 semesters.

# **Variables**

The variables examined for relationship to course success were as follows: age, high school GPA, high school completion status, recency of formal schooling, years of high school English, grade in last English class, highest math class completed, grade in last math class, recency of last math class, units planned, work hours planned. The values for these variables can be found in Appendix 1.

# **Analyses**

Chi-square analysis was used to determine associations between course success and the variables of interest. The chi-square statistic provided a measure of statistical significance while the crosstabulations provided a means to examine the relative and practical importance of the associations. These analyses were carried out for writing, reading, and math courses. Course success was determined by end of course grade. Grades of A, B, C, or CR were considered success. Grades of D, F, or NC were considered nonsuccess. Grades of W or INC were not considered nonsuccess, but were treated as separate values. Because of the large number of cases and the desire to find only meaningful associations, statistical significance was set at  $p \le .01$ .



# RESULTS

# **Writing Courses**

Because of the desire to identify underlying factors associated with success in writing courses, analyses were performed with data combined from all writing courses (English 50A - Basic Composition, English 50B - Intermediate Composition, and English 1A - Freshman Composition I). Table 1 displays the association between age and success in writing courses. The relationship was found to be statistically significant. Given the limitations of the data, it is evident that students 25 years of age and older experience considerably more success than those 24 years of age and younger.

Table 1 Expectancy Table Showing Relation Between Age and End of Course Grade for Writing Courses (N = 4127).

Age	# of Cases	Percentage Receiving Each Grade A/B/C/CR D/F/NC W/INC				
<u>&lt;</u> 24	2896	43	31	27	<u>-</u>	
25 - 34	816	56	19	25		
35 - 44	313	63	17	20		
<u>&gt;</u> 45	102	60	<b>i</b> 7	23		
All Cases	4127	47	27	26		

Chi-square = 108.02, df = 10, p = .000

Table 2 displays the association between high school GPA and writing course success. The relationship was found to be statistically significant. It is evident that students with average grades of "B to A-" and "A- to A" experience considerably more success than those with lower high school grades.



Table 2 Expectancy Table Showing Relation Between High School GPA and End of Course Grade for Writing Courses (N = 4090)

HS GPA	# OF CASES	Percentage R A/B/C/CR	eceiving Each D/F/NC	Grade W/INC	
D or less	179	42	28	30	
C- to C	541	45	26	30	
C to B-	1195	41	30	29	
B- to B	1157	47	27	26	
B to A	800	56	24	20	
A- to A	218	62	19	19	
All Cases	4090	47	27	26	

Chi-square = 70.06, df = 12, p = .000

Table 3 displays the association between high school completion and writing course success. The relationship was found to be statistically significant. Students who are high school graduates experience greater success (48%) than those who are not high school graduates (43%). It is interesting to note that 20% of all students in writing courses did not complete high school.

Table 3 Expectancy Table Showing Relation Between High School Completion Status and End of Course Grade for Writing Courses (N = 4135)

HS COMPLETION	# OF CASES	Percentage R A/B/C/CR	eceiving Each D/F/NC	Grade W/INC	
HS Graduate	3303	48	27	25	
Not HS Grad	832	43	27	30	
All Cases	4135	47	27	26	

Chi-square = 20.56, df = 2, p = .000

Table 4 displays the association between years of high school English and writing course success. The relationship was not statistically significant. It appears that the number of years of high school English is not a very useful variable in predicting writing course success. For example, students with two years (49%) have as much success as students with four years (50%).



Table 4 Expectancy Table Showing Relation Between Years of High School English and End of Course Grade for Writing Courses (N = 4096).

Years of HS English	# of Cases		deceiving Each	Grade W/INC	
< 1 year	136	46	25	29	
1 year	166	43	25	31	
2 years	436	49	24	27	
3 years	1800	45	29	26	
4 years	1558	50	26	24	
All Cases	4096	47	27	26	

Chi-square = 13.64, df = 8, p = .092

Table 5 displays the association between grade in last English class and writing course success. The relationship was found to be statistically significant. Students with grades of "B" or "A" experience considerably more success than those with grades of "C" or less.

Table 5 Expectancy Table Showing Relation Between Grade in Last English Class and End of Course Grade for Writing Courses (N = 4054)

Last English Grade	# of Cases	Percentage Receiving Each Grade  A/B/C/CR D/F/NC W/INC			
F	49	20	25	29	
D	252	33	42	25	
С	1587	43	29	28	
В .	1641	51	24	25	
A	525	58	23	19	
All Cases	4054	47	27	26	

Chi-square = 97.18, df = 8, p = .000

Table 6 displays the association between work hours planned and writing course success. The relationship was found to be statistically significant, but a confusing picture emerged. Students planning to work no hours have almost the same success rate (49%) as those planning



to work 31-40 hours per week (48%) and those planning more than 40 hours of work per week (50%).

Table 6 Expectancy Table Showing Relation Between Work Hours Planned and End of Course Grade for Writing Courses (N = 40%4).

Work Hours Planned	# of Cases	Percentage R A/B/C/CR	deceiving Each D/F/NC	Grade W/INC	
None	816	49	28	24	
1-10/week	262	49	27	24	·
11-20/week	907	48	30	22	
21-30/week	985	44	28	28	
31-40/week	781	48	23	29	
> 40/week	333	50	20	30	
All Cases	4084	47	27	26	

Chi-square = 29.01, df = 10, p = .0001

Table 7 displays the association between units planned and writing course success. The relationship was statistically significant. Students planning to enroll in less than 6 units tend to have a higher success rate than students planning to take 6 or more units. Students planning to take 12 or more units have the lowest success rate.

Table 7 Expectancy Table Showing Relation Between Units Planned and End of Course Grade for Writing Courses (N = 4089).

Units Planned	# of Cases	Percentage R A/B/C/CR	leceiving Each D/F/NC	Grade W/INC	•
< 6 units	537	56	21	24	
6-8 units	959	49	25	26	
9-11 units	629	49	24	27	
12 or more	1964	44	30	26	
All Cases	4089	47	27	26	

Chi-square = 33.65, df = 6, p = .001



Table 8 displays the association between recency of schooling and writing course success. The relationship was statistically significant. Students who have been out of school 3 or more years tend to have higher success rates than those out of school less than 3 years.

Table 8 Expectancy Table Showing Relation Between Recency of Schooling and End of Course Grade for Writing Courses (N = 4116).

Years Out of School	# of Cases	Percentage R A/B/C/CR	eceiving Each D/F/NC	Grade W/INC	
Still enrolled	1110	46	30	25	
< 1 year	1198	40	33	27	
1-2 years	410	41	30	29	
3-4 years	318	54	19	27	
5-10 years	511	52	21	27	, 
> 10 years	569	60	18	22	
All Cases	4116	47	27	26	

Chi-square = 99.84, df = 10, p = .000

Seven of the variables showed statistically significant associations with writing course success (age, high school GPA, high school completion status, grade in last English class, work hours planned, units planned, and recency of schooling). One variable, years of high school English, was not significantly associated with success.

Using additional measures in placement recommendations requires that the measures not be "highly correlated" [Title 5, 55521(c)]. The terms "highly correlated" are extremely subjective. Correlations can be statistically significant and/or practically significant. When the number of cases is sufficiently large, even small departures from 0 can be statistically significant. However, statistical significance does not always mean that a correlation is useful or meaningful. In sorting out the interrelationships among the variables, it was decided that correlations of .50 or higher between variables were indicative of high correlations. Appendix 3 displays a correlation matrix for all the independent variables as well as end of course grade for writing.

The relation between high school completion and writing course success was statistically significant. However, the difference between completers and non-completers was only 5% and therefore it is recommended that this variable not be used. The relationship between work hours planned and writing course success, while statistically significant, produced some puzzling results (see Table 6). Age was strongly associated with writing course success. However, the correlation matrix reveals a high correlation (r = .62) between age and recency of schooling.



Including age would not add appreciably to the model of multiple measures because most of this variance is explained through the recency of schooling variable. Additionally, age is a sensitive variable and using it as a measure for placement consideration could create a bias/discrimination issue. Grade in last English class and high school GPA were strongly associated with writing course success. However, the correlation matrix reveals a high correlation (r=.56) between high school GPA and grade in last English class. In choosing one or the other it seems reasonable to choose grade in last English class since we are concerned with writing course success.

In summary, high school completion status, work hours planned, age, and high school GPA are not recommended as multiple measures because of the reasons outlined above. Three of the independent variables demonstrated very clear and highly linear associations with writing course success and were not highly correlated with each other. It is recommended that for the following variable values a point be added to the writing score to form an *adjusted* writing score based on multiple measures:

Grade in Last English class (add a point for students with a "B" or better grade) Units Planned (add a point for students planning to take less than 6 units) Recency of Schooling (add a point for students out of school more than 10 years)

# Reading Courses

Because of the desire to identify underlying factors associated with success in reading courses, analyses were performed with data combined from all reading courses (English 51A - Intermediate Reading and English 51B - Critical Reading and Study Skills). Table 9 displays the association between age and success in reading courses. The relationship was found to be statistically significant. Given the limitations of the data, it is evident that students 25 years of age and older experience considerably more success than those 24 years of age and younger.

Table 9 Expectancy Table Showing Relation Between Age and End of Course Grade for Reading Courses (N = 502).

Age	# of Cases	Percentage R A/B/C/CR	eceiving Each D/F/NC	Grade W/INC	
<u>&lt;</u> 24	294	64	20	16	
25 - 34	112	77	9	14	
. 35 - 44	64	75	3	22	
<u>&gt;</u> 45	32	88	6	6	
All Cases	502	70	14	16	

Chi-square = 24.79, df = 10, p = .006



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Table 10 displays the association between high school GPA and reading course success. The relationship was found to be statistically significant. It is evident that students with average grades of "B to A-" and "A- to A" experience considerably more success than those with lower high school grades. Students with high school GPAs of "D or less" also have high success rates (86%), but with so few in this category (N = 9, 2%), it seems unreasonable to draw any conclusions.

Table 10 Expectancy Table Showing Relation Between High School GPA and End of Course Grade for Reading Courses (N = 498)

HS GPA	# OF CASES	Percentage Receiving Each Grade					
ns OFA	# OF CASES	A/B/C/CR	D/F/NC	W/INC			
D or less	9	86	0	14			
C- to C	84	62	21	17			
C to B-	158	71	10	19			
B- to B	138	62	19	19			
B to A-	88	82	9	9			
A- to A	21	88	12	0			
All Cases	498	70	14	16			

Chi-square = 22.48, df = 10, p = .013

Table 11 displays the association between high school completion and reading course success. The relationship was not statistically significant. Students who are high school graduates are not likely to experience greater success than those who are not high school graduates.



Table 11 Expectancy Table Showing Relation Between High School Completion Status and End of Course Grade for Reading Courses (N = 500)

HS COMPLETION	# OF CASES	Percentage R A/B/C/CR		Grade W/INC	
HS Graduate	418	70	14	16	_
Not HS Grad	82	66	20	14	
All Cases	500	70	14	16	

Chi-square = 4.49, df = 2, p = .106

Table 12 displays the association between years of high school English and reading course success. The relationship was not statistically significant. Students with three or four years of high school English experience are not more likely to be successful when compared to students with 2 years or less of high school English.

Table 12 Expectancy Table Showing Relation Between Years of High School English and End of Course Grade for Reading Courses (N = 498).

Years of HS English	# of Cases Percentage Receiving Each Grade  A/B/C/CR D/F/NC W/INC				
2 years or less	92	70	13	17	
3 years	180	68	20	12	_
4 years	226	70	12	18	
All Cases	498	70	14	16	

Chi-square = 7.84, df = 4, p = .100

Table 13 displays the association between grade in last English class and reading course success. The relationship was statistically significant. Students with grades of "B" in their last English class experience the highest success rate (76%) in reading courses. No students reported having an "F" in their last English class and only 5% reported earning a "D".



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Table 13 Expectancy Table Showing Relation Between Grade in Last English Class and End of Course Grade for Reading Courses (N = 500)

Last English Grade	# of Cases	Percentage R A/B/C/CR	eceiving Each	Grade W/INC	
C or less	294	67	15	18	
В	144	76	8	. 16	
A	62	65	26	9	
All Cases	500	70	14	16	

Chi-square = 12.86, df = 4, p = .012

Table 14 displays the association between work hours planned and reading course success. The relationship was found to be statistically significant. Students planning to work no hours or 1-10 hours per week are more likely to succeed in reading courses than those planning to work 11 or more hours per week.

Table 14 Expectancy Table Showing Relation Between Work Hours Planned and End of Course Grade for Reading Courses (N = 502).

Work Hours Planned	# of Cases	Percentage R A/B/C/CR	deceiving Each D/F/NC	Grade W/INC	
None	128	81	6	13	
1-10/week	36	78	6	16	
11-20/week	140	69	17	14	
21-30/week	74	57	30	13	
31-40/week	104	63	14	23	
> 40/week	20	70	20	10	-
All Cases	502	70	14	16	

Chi-square = 31.13, df = 10, p = .000



Table 15 displays the association between units planned and reading course success. The relationship was not statistically significant. For reading course success, units planned does not appear to be associated with end of course grade.

Table 15 Expectancy Table Showing Relation Between Units Planned and End of Course Grade for Reading Courses (N = 492).

Units Planned	# of Cases	Percentage R A/B/C/CR	eceiving Each	Grade W/INC	
< 6 units	54	70	15	15	
6-8 units	128	78	9	13	
9-11 units	62	68	16	16	·
12 or more	248	66	16	18	
All Cases	492	70	14	16	

Chi-square = 6.21, df = 6, p = .400

Table 16 displays the association between recency of schooling and reading course success. The relationship was statistically significant. Students who have been out of school 10 or more years have the highest success rate (81%) in reading courses. For some reason students out of school 1-2 years have the lowest success rate (52%).

Table 16 Expectancy Table Showing Relation Between Recency of Schooling and End of Course Grade for Reading Courses (N = 496).

Years Out of School	# of Cases	Percentage R A/B/C/CR	eceiving Each D/F/NC	Grade W/INC	
Still enrolled	118	71	17	12	
< 1 year	108	61	24	15	
1-2 years	46	52	30	17	
3-4 years	36	67	6	28	
5-10 years	92	67	· 11	22	
> 10 years	96	81	4	15	
All Cases	496	70	14	16	

Chi-square = 37.33, df = 10, p = .000



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Five of the variables showed statistically significant associations with reading course success (age, high school GPA, grade in last English class, work hours planned, and recency of schooling) while three variables were not significantly associated with success (high school completion status, years of high school English, and units planned).

Age was strongly associated with reading course success. However, additional analysis revealed a high correlation (r = .75, see Appendix 4) between age and recency of schooling. Including age would not add appreciably to the model of multiple measures because most of this variance is picked up in the recency of schooling variable. And as mentioned previously, age is a sensitive variable that potentially could raise issues of bias and/or discrimination if used in placement decisions. High school GPA and grade in last English class were strongly associated with reading course success. However, the correlation between high school GPA and grade in last English was high (r = .55). In choosing one or the other, it seems reasonable to choose grade in last English class since we are concerned with reading course success.

In summary, age and high school GPA are not recommended as multiple measures because of the reasons outlined above. Three of the independent variables demonstrated very clear and highly linear associations with reading course success and were not highly correlated with each other. It is recommended that for the following variable values a point be added to the reading score to form an *adjusted* reading score based on multiple measures:

Grade in Last English Class (add a point for students reporting a "B" grade)
Work Hours Planned (add a point for students planning to work 10 or less hours per week)

Recency of Schooling (add a point for students out of school more than 10 years)

# **Math Courses**

While there are 13 different math courses in which students can be placed, 7 years of placement data have shown that 96% of all students place into math courses at the intermediate algebra level and below. It seemed reasonable to explore variables associated with math success utilizing these courses: Math 60 - Arithmetic Fundamentals, Math 50 - Arithmetic, Math A - Elementary Algebra, Math B - Geometry, and Math C - Intermediate Algebra,

Table 17 displays the association between age and success in math courses. The relationship was found to be statistically significant. Given the limitations of the data, it is evident that students 25 years of age and older experience considerably more success than those 24 years of age and younger.



Table 17 Expectancy Table Showing Relation Between Age and End of Course Grade for Math Courses (N = 2681).

Age	# of Cases	Percentage R A/B/C/CR	eceiving Each	Grade W/INC	
<u>&lt;</u> 24	1708	46	25	29	
25 - 34	601	66	11	23	
35 - 44	287	72	9	19	
<u>&gt;</u> 45	85	62	13	25	
All Cases	2681	53	20	27	

Chi-square = 136.56, df = 10, p = .000

Table 18 displays the association between high school GPA and math course success. The relationship was found to be statistically significant. It is evident that students with average grades of "B to A-" and "A- to A" experience considerably more success than those with lower high school grades. Students with high school GPAs of "D or less" also have high success rates (86%), but with so few in this category (N = 9, 2%), it seems unreasonable to draw any conclusions.

Table 18 Expectancy Table Showing Relation Between High Scho<sup>^</sup>Hl GPA and End of Course Grade for Math Courses (N = 2648)

HS GPA	# OF CASES	Percentage R A/B/C/CR	leceiving Each D/F/NC	Grade W/INC	
D or less	108	43	18	39	
C- to C	337	50	17	33 ·	
C to B-	704	49	22	29	
B- to B	760	52	23	25	
B to A-	586	60	16	24	
A- to A	153	68	11	21	
All Cases	2648	53	20	27	

Chi-square = 50.04, df = 10, p = .000



Table 19 displays the association between high school completion and math course success. The relationship was statistically significant. Students who are high school graduates are likely to experience greater success in math courses (58%) than those who are not high school graduates (45%). It is interesting to note that 34% of all students in math courses did not complete high school.

Table 19 Expectancy Table Showing Relation Between High School Completion Status and End of Course Grade for Math Courses (N = 2681)

		Percentage Receiving Each Grade				
HS COMPLETION	# OF CASES	A/B/C/CR	D/F/NC	W/INC		
HS Graduate	1774	58	17	25		
Not HS Grad	907	45	25	30		
All Cases	2681	53	20	27		

Chi-square = 20.40, df = 2, p = .000

Table 20 displays the association between recency of last math class and math course success. The relationship was found to be statistically significant. It appears that students who completed a math class 5 or more years ago are the most likely to be successful (67%).

Table 20 Expectancy Table Showing Relation Between Recency of Last Math Class and End of Course Grade for Math Courses (N = 2673).

Years Since Last Math Class	# of Cases	Percentage R A/B/C/CR	eceiving Each D/F/NC	Grade W/INC	
Current	223	49	27	23	
< 1 year	573	47	28	26	
1-2 years	682	43	25	32	
3-5 years	322	52	15 -	33	
> 5 years	873	67	11	22	
All Cases	2673	53	20	27	

Chi-square = 140.35, df = 8, p = .000



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Table 21 displays the association between highest math class completed and math course success. The relationship was found to be statistically significant. Students ho complete math courses beyond Algebra 1 experience more success than those whose backgrounds include Algebra 1 preparation or less.

Table 21 Expectancy Table Showing Relation Between Highest Math Class Completed and End of Course Grade for Math Courses (N = 2676)

Highest Math Grade Completed	# of Cases	Percentage R A/B/C/CR	leceiving Each D/F/NC	Grade W/INC	
≤ Algebra 1	1816	51	21	28	
Geometry/ Algebra 2	780	58	18	24	
> Algebra 2	80	75	8	17	
All Cases	2676	53	20	27	

Chi-square = 27.83, df = 4, p = .000

Table 22 displays the association between grade in last math class and math course success. The relationship was found to be statistically significant. Students with grades of "B" or "A" in their last math class experience greater success than those with grades of "C" or less.

Table 22 Expectancy Table Showing Relation Between Grade in Last Math Class and End of Course Grade for Math Courses (N = 2667)

Last Math			Percentage Receiving Each Grade		
Grade	# of Cases	A/B/C/CR	D/F/NC	W/INC	
F	64	41	23	36	
D	353	45	25	31	
С	1189	51	21	28	
В	767	57	17	26	
A	294	66	14	20	
All Cases	2667	53	20	27	_

Chi-square = 41.26, df = 8, p = .000



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Table 23 displays the association between work hours planned and math course success. The relationship was found to be statistically significant, but a confusing picture emerged. Students planning to work no hours have almost the same success rate (56%) as those planning to work 31-40 hours per week (57%). Those planning more than 40 hours of work per week have the highest success rate (65%). Additionally, those students planning to work from 1-30 hours per week have similar success rates (around 50%).

Table 23 Expectancy Table Showing Relation Between Work Hours Planned and End of Course Grade for Math Courses (N = 2644).

Work Hours Planned	# of Cases	Percentage R A/B/C/CR	eceiving Each	Grade W/INC	
None	706	56	19	25	·
1-10/week	164	51	18	31	
11-20/week	591	49	23	29	
21-30/week	551	49	21	31	
31-40/week	460	57	18	25	
> 40/week	172	65	15	20	
All Cases	2644	53	20	27	

Chi-square = 27.26, df = 10, p = .002

Table 24 displays the association between units planned and math course success. The relationship was statistically significant. Students planning to enroll in 8 units or less tend to have a higher success rate than students planning to take 9 or more units. Students planning to take 12 or more units have the lowest success rate.



Table 24 Expectancy Table Showing Relation Between Units Planned and End of Course Grade for Math Courses (N = 2632).

Units Planned	# of Cases	Percentage R A/B/C/CR	eceiving Each	Grade W/INC	
< 6 units	348	62.	15	23	
6-8 units	695	58	18	24	
9-11 units	400	52	21	27	
12 or more	1179	49	21	30	
All Cases	2632	53	20	27	

Chi-square = 29.20, df = 6, p = .000

Table 25 displays the association between recency of schooling and math course success. The relationship was statistically significant. Students who have been out of school 10 or more years experience a higher success rate than those out of school 10 years or less.

Table 25 Expectancy Table Showing Relation Between Recency of Schooling and End of Course Grade for Math Courses (N = 2666).

Years Out of School	# of Cases	Percentage R A/B/C/C'R	eceiving Each D/F/NC	Grade W/INC	
Still enrolled	944	48	25	28	
< 1 year	489	48	26	26	
1-2 years	218	<b>5</b> î	18	30	
3-4 years	214	55	12	33	
5-10 years	305	58	18	25	
> 10 years	496	67	9	24	
All Cases	2666	53	20	27	

Chi-square = 91.41, df = 10, p = .000

All nine variables showed statistically significant associations with success in math courses (age, high school GPA, high school completion, recency of last math class, highest math



completed, grade in last math class, work hours planned, units planned, and recency of schooling).

The correlation matrix in Appendix 5 reveals a high correlation (r = .63) between age and recency of schooling, a high correlation (r = .79) between recency of last math class and recency of schooling, a high correlation (r = .59) between age and recency of last math class, and a high correlation (r = .46) between high school completion and recency of schooling. This evidence of high multicollinearity among these independent variables provides reasonable justification to leave out age, recency of last math class, and high school completion status in the model of multiple measures. The contributions of these variables in explaining math course success is sufficiently picked up through the recency of schooling variable. Additionally, the work hours planned variable was significantly associated with math course success, but as described earlier, a somewhat odd pattern emerged in success rates. It is also recommended to leave this variable out of the model.

In summary, age, recency of last math class, high school completion status, and work hours planned are not recommended as multiple measures because of the reasons outlined above. Five of the independent variables demonstrated very clear and highly linear associations with math course success and were not highly correlated with each other. It is recommended that for the following variable values, a point be added to the math score to form an *adjusted* math score based on multiple measures:

HS GPA (add a point for students with average grades of "B to A-" or higher) Highest Math Completed (add a point for students who completed courses beyond Algebra 1)

Grade in Last Math Class (add a point for students with a "B" or better)
Units Planned (add a point for students planning to take 8 units or less)
Recency of Schooling (add a point for students out of school more than 10 years)



# **SUMMARY**

The use of multiple measures in placement recommendations is required as outlined in matriculation regulations and provisions. This study explored educational background variables potentially associated with success in writing, reading, and math courses. For writing courses, three variables were found to be strongly associated with success and were recommended to be used as additional criteria in reading placement recommendations: Grade in last English class, units planned, and recency of schooling. For reading courses, three variables were found to be strongly associated with success and were recommended to be used as additional criteria in making placement recommendations: Years of high school English, work hours planned, and recency of schooling. For math courses, five variables were found to be strongly associated with success and were recommended to be used as additional criteria in placement recommendations: high school GPA, highest math class completed, grade in last math class, units planned, and recency of schooling. It is interesting to note that recency of schooling was associated with success in writing, reading, and math courses. It is not surprising that recency of schooling is predictive of success across these courses. The older, returning students tend to be more mature, motivated, and determined to succeed, all of which, are believed to contribute to success in college work.

One caveat needs to be mentioned in this approach with multiple measures. The values for the variables are self-reported (see Appendix 1). There is concern that when students find out about how the measures are applied there may be false reporting of some of the information. Because of this concern a number of cases were examined in terms of how the application of the multiple measures affect placement recommendations. The result of this examination revealed that the majority of the impact from this weighting is with students who have borderline scores. In other words, the impact is primarily with students who are 1 or 2 points away from a different placement level. Appendices 6, 7, and 8 provide examples of how the adjusted scores affect placement recommendations for writing, reading, and math respectively. Appendix 9 provides a table of cutoff scores for placement recommendations. For many students, the addition of 3 or 4 points to their test scores will not affect their placement recommendation. Additionally, experience and research has shown that students tend to be quite forthright and honest when answering questions about their academic backgrounds.

There are certainly pluses and minuses with this approach to using multiple measures. On the negative side it is cold and impersonal. The measures are applied mechanically through computer scoring of the placement exams. There is no subjectivity. On the positive side this method of applying multiple measures is fair and consistent. In the past multiple measures were applied differently by different counselors/advisors with a variety of opinions and biases toward success factors.

Finally, even though multiple measures are applied at the front end of the assessment/placement process, the resulting placement recommendation is not absolutely final. Students have the opportunity to appeal their placement recommendation through the prerequisite challenge process (see Appendix 10).



# COUNSELING REPORT

Name:

Soc.Sec.#

Address:

Telephone:

Birthdate: 02/05/74 Age: 19

Sex: MALE

Ethnicity: BLACK/NOT OF HISPANIC ORIGIN

Admission Status: NEW (FIRST TIME IN COLLEGE) Veteran: NO

English first language: YES Has learning disability: NO

E.O. 2.S.

EDUCATIONAL BACKGROUND: \_\_\_\_\_\_

High school education: HIGH SCHOOL DIPLOMA

Highest degree: NO DEGREE AT THIS TIMF Years out of school: LESS THAN 1 YEAR

Years of H.S. English: 4 YEARS IN H.S.

Grade in last English class: B

High School G.P.A.: B to A-, 3.0 - 3.4

H.S. last attended: NOT SPECIFIED Highest math completed: BASIC MATH

Grade in last math class: A

Time since last math: LESS THAN 1 YEAR

WOULD LIKE INFORMATION ABOUT: \_\_\_\_\_

FINANCIAL AID

VETT ANS' PROGRAM

COLLEGE PLANS: 

Plan to attend: DAY

Units planned next term:

Employment hours planned: NONE

Educational goal: Major: NOT SPECIFIED

Transfer college: UC, LOS ANGELES (UCLA)

Importance of college to significant others: VERY IMPORTANT

Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12 1.3

Ouestions: Α

	CORRECT ATTEMPT			LOCAL		
rest taken	#	상	#	%	ACCURACY	%-ILE
WRITINGCEEB A	16	40%	40	100%	40%	17%
WRITINGCEEB A	16	40%	40	100%	40%	0왕
ALGEBRA READINESS	14	28%	50	100%	28%	0%
READINGCEEB A	12	34%	35	100%	34%	14%
READINGCEEB A	15	43%	35	100%	43%	0%
- -	VRITINGCEEB A VRITINGCEEB A ALGEBRA READINESS READINGCEEB A	VRITINGCEEB A 16 VRITINGCEEB A 16 VRITINGCEEB A 16 ALGEBRA READINESS 14 READINGCEEB A 12	FEST TAKEN # %  WRITINGCEEB A 16 40% WRITINGCEEB A 16 40% ALGEBRA READINESS 14 28% READINGCEEB A 12 34%	TEST TAKEN # % #  VRITINGCEEB A 16 40% 40  VRITINGCEEB A 16 40% 40  ALGEBRA READINESS 14 28% 50  READINGCEEB A 12 34% 35	# % # %  WRITINGCEEB A 16 40% 40 100%  WRITINGCEEB A 16 40% 40 100%  ALGEBRA READINESS 14 28% 50 100%  READINGCEEB A 12 34% 35 100%	# % # % ACCURACY  VRITINGCEEB A 16 40% 40 100% 40%  VRITINGCEEB A 16 40% 40 100% 40%  ALGEBRA READINESS 14 28% 50 100% 28%  READINGCEEB A 12 34% 35 100% 34%

COURSE PLACEMENTS:

07/29/93 WRITING: ENGLISH 50A (BASIC COMPOSITION AND MECHANICS)

08/02/94 WRITING: ENGLISH 50A (BASIC COMPOSITION AND MECHANICS)

08/02/94 MATH: MATH 50

07/29/93 READING: READING X ENGLISH 51A (INTERMEDIATE READING)

08/02/94 READING: ENGLISH 51A (INTERMEDIATE READING)

COMMENTS:



13. HIGH SCHOOL LAST ATTENDED:

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# **EDUCATIONAL BACKGROUND**

7.	<b>HIGH SCHOOL</b>	EDUCATION: (Choose	only one)

- OStill in H.S.
- O Not a H.S. graduate
- O High School diploma
- O Foreign secondary diploma
- 8. HIGHEST COLLEGE DEGREE OR CERTIFICATE EARNED:
- O No degree at this time
- Associate Degree
- O Certificate
- 9. HOW LONG HAVE YOU BEEN OUT OF SCHOOL? (Don't count or include summer)
- O Still in school
- OLess than 1 year
- ☐ 1—2 years

O G.E.D.

Other

CHS. proficiency

O Bachelor's Degree

Certificate of completion

- 5-10 years
- More than 10 years

# 10. HOW MANY YEARS OF ENGLISH HAVE YOU COMPLETED IN HIGH SCHOOL? (Do not include E.S.L.)

- C Less than 1 year in high school
- 1 year in high school
- 3 years in high school
- 2 years in high school
- O 4 years in high school
- 11. WHAT GRADE DID YOU RECEIVE IN THE LAST **ENGLISH CLASS YOU COMPLETED?** 
  - **3**
- 0

## 12. WHAT IS YOUR HIGH SCHOOL GRADE POINT AVERAGE (G.P.A.)?

- A- to A 3.5-4.0
- ○B to A- 3.0—3.4
- OB- to B 2.5-2.9
- OC to B- 2.0-2.4
- OC- to C 1.5-1.9
- OD to C- 1.0-1.4
- Below D C.-0.9

#### 14. WHAT IS THE HIGHEST LEVEL MATH CLASS YOU HAVE COMPLETED?

- O None
- **®** O Algebra II (intermediate)

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- O Basic math (arithmetic)
  - Trigonometry College Algebra/Pre-calculus
- O Algebra I (beginning)
  - - Calculus

(D) (D)

- Geometry

# 15. WHAT GRADE DID YOU RECEIVE IN THE LAST MATH CLASS YOU COMPLETED?

16. HOW LONG AGO DID YOU COMPLETE YOUR LAST

24. TRANSFER

23. HOW DEFINITE

CHOICE OF

IS YOUR

MAJOR?

O Very

○ Fairty

O Unsure

COLLEGE:

- Œ **©**
- **MATH CLASS?**
- O Currently enrolled in a math course OLess than 1 year
  - 3-5 years
- 1-2 years
- O More than 5 years

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27. ADDITIONAL QUESTIONS:

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# **COLLEGE PLANS**

#### 17. PLAN TO ATTEND:

- O Day
- O Evening
- O Day and Evening

# 18. COLLEGE UNITS PLANNED FOR NEXT TERM:

- CLess than 6 units

○ 6-8 units

# 19. EMPLOYMENT HOURS PLANNED WHILE ENROLLED:

○ None

## 20. MOST IMPORTANT EDUCATIONAL GOAL:

- O Personal enrichment only
- Two year degree

- Transfer to a 4 year college
- O Vocational training/
- certificate

- O Financial aid
- Job placement
- Child care
- O Disabled student services
- O Health services
- O Learning disabilities
- O Veterans' program
- O E.O.P.S.

ERICCAPP

- O Re-entry program
- Work experience

- 9-11 units
- 12 units or more

- 21-30 hours/week
- 1-10 hours/week
- ◯ 31-40 hours/week
- O 11-20 hours/week

- CH.S. diploma
- Other
- 21. I WOULD LIKE INFORMATION ABOUT:
- (Check all that apply)
- Choosing a major Career planning
- Counseling
- Transferring Tutoring
- O Study skills
- O Math skills
- O Reading skills
- O Writing skills O E.S.L
- Orientation to college

PAGE 3

- 22. MAJOR:
  - Use code sheet -
  - ത യ യ യ Œ Œ **D** Œ
- 2 2 2 2 3 3 3 **③**
- **(4)** 4 **(A**) **(D) (5**) **(5)** Œ **(5**)
- ത ത **®** ത 0  $\boldsymbol{\sigma}$ 0 0
- ➂ ➂ **® (B)** ത ത വ ത
  - 25. HOW IMPORTANT IS IT TO THE PEOPLE **CLOSEST TO YOU**

THAT YOU GO TO

- COLLEGE?
- Not very important Somewhat important
- O Very important
- 26. HOW IMPORTANT IS **COLLEGE TO YOU** PERSONALLY?
- O Not very important
- Somewhat important C Very important

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Appendix 3

Correlation Matrix for All Independent Variables and End of Course Grade for Writing Courses (N = 3995)

ariable Name	i	2	3	4	5	6	7	8	9
. Age	1.00	17**	.12**	16**	07**	.02	27**	.61**	02
. HS GPA	17**	1.00	.11**	.23**	.56**	.06**	.12**	27**	08**
. HS Completion	.12**	.11**	1.00	.28**	.08**	.10**	.03	18**	04*
. Years HS English	16**	.23**	.28**	1 00	.18**	.06**	.17**	20**	04
Grade Last Engl Class	07**	.56**	.30**	.18%	1.00	.01	.06^*	09**	07**
Work Hours Planned	.02	.06**	.10**	.06**	10.	1.00	20**	.01	.05*
. Units Planned	27**	.12**	.03	.17*-	.06**	20**	1.00	30**	.02
Recency of Schooling	.61**	27**	.18**	20**	09**	.01	30**	1.00	01
Writing Course Grade	02	08**	04*	(24	07**	.05*	.02	01	1.00

<sup>\*</sup> p < .01



<sup>\*\*</sup> p < .001

Appendix 4

Correlation Matrix for All Independent Varia.  $\sim$  and End of Course Grade for Reading Courses (N = 406)

Variable Name	1	2	3	4	5	6	7	8	9	
1. Age	1.00	21**	.08	05	16*	.11	22**	.75**	.18**	
2. HS GPA	22**	1.00	.25**	.32**	.55**	.09	.14*	32**	.07	
3. HS Completion	.08	.25**	1.00	.37**	.16**	.01	.14*	00	.08	
4. Years HS English	05	.32**	.37**	1.00	.26**	05	.12	24**	.11	
5. Grade Last Engl Class	16*	.55**	.16**	.26**	1.00	06	.20**	26**	.01	
6. Work Hours Planned	.11	.0ע	.01	05	06	1.00	37**	08	15*	
7. Units Planned	2	.14*	.14	.13	20**	37**	1.00	20**	09	
8. Recency of Schooling	.75**	32**	00	24**	26**	08	20**	1.00	.13	
9. Reading Course Grade	.18**	.07	.08	.11	.01	15*	09	.13	1.00	

p < .01



<sup>\*\*</sup> p < .001

Appendix 5

Correlation Matrix for All Independent Variables and End of Course Grade for Math Courses (N = 1875)

Variable Name	1	2	3	4	5	6	7	8	9	10
1. Age	1.00	15**	.33**	.59**	14**	.05	.06	20**	.63**	.26**
2. HS GPA	15**	1.00	06*	21**	.34**	.29**	.01	.10**	23**	.10**
3. HS Completion	.33**	06*	1.00	.46**	.02	.06*	.12**	11**	.46**	.19**
4. Last Math Class	.59**	21**	.46**	1.00	17**	00	.09**	23**	.79**	.27**
5. Highest Math Class	14**	.34**	.02	17**	1.00	00	.06*	.13**	17**	.09**
6. Grade Last Math Class	.05	.29**	.06*	00	00	1.00	.01	03	.04	.17**
7. Work Hours Planned	.06	.01	.12**	.09**	.06*	.01	1.00	26**	.05	.03
8. Units Planned	20**	.10**	11**	- 23**	.13**	03	26**	1.00	22*	13**
9. Recency of Schooling	.63**	23**	.46**	.79**	17**	.04	.05	22**	1.00	.26**
10. Math Course Grade	.26**	.10**	.19**	.27**	.09**	.17**	.03	13**	.26**	1.00

<sup>\*</sup> p < .01



<sup>\*\*</sup> p < .001

# Appendix 6 Writing Placement Examples ANTELOPE VALLEY COLLEGE

# COUNSELING REPORT

Name:

Soc.Sec.#:

Address:

Telephone: (805)

Birthdate: Age: 54

Sex: FEMALE English first language: YES Ethnicity: FILIPINO Has learning disability: NO

Admission Status: NEW (FIRST TIME IN COLLEGE) Veteran: NO

EDUCATIONAL BACKGROUND:

WOULD LIKE INFORMATION ABOUT:

FINANCIAL AID

WORK EXPERIENCE

CAREER PLANNING

JOB PLACEMENT

High school education: FOREIGN SECONDARY DIPLOMA

Highest degree: ASSOCIATE DEGREE

Years out of school: MORE THAN 10 YEARS

Years of H.S. English: 4 YEARS IN H.S.

Grade in last English class: A

High School G.P.A.: B to A-, 3.0 - 3.4

H.S. last attended: OTHER COUNTRY HIGH SCHOOL

Highest math completed: ALGEBRA I

Grade in last math class: B

Time since last math: MORE THAN 5 YEARS

COLLEGE PLANS:

Plan to attend: DAY

Units planned next term: 9-11 Units  $oldsymbol{arphi}$ 

Employment hours planned: NONE

Educational goal: VOCATIONAL TRAINING/CERTIFICATE

Major: CHILD AND FAMILY EDUCATION (VERY SURE)

Transfer college: NOT SPECIFIED

Importance of college to significant others: VERY IMPORTANT

Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Questions: A

TEST			COR	RECT	ATT	rempt		LOCAL	
RESULTS:	TESTDATE	TEST TAKEN	#	%	#	상	ACCURACY	%-ILE	
	03/07/95	WRITINGCEEB A	25	63%	40	100%	63%	61%	
	03/07/95	ALGEBRA READINESS	20	40%	43	86%	47%	82%	
	03/07/95	READINGCEEB A	19	54%	31	89%	61%	43%	
	03/10/95	ESSAY	6						
	03/07/95	WRITING A ADJUST SCR	27						
	03/07/95	MATH AR ADJUSTED SCR	23.						
	03/07/95	READING A ADJUST SCR	21						

COURSE PLACEMENTS:

03/07/95 WRITING: ENGLISH 50B (INTERMEDIATE COMPOSITION)

03/07/95 MATH: MATH A, BUS 50 (RECOMMEND MATH 50)

03/07/95 READING: ENGLISH 51B (CRITICAL READING SKILLS)

COMMENTS:

Impact on Writing Placement

None - Score change from 25 to 27 caused essay to be read, but score of 8 on essay required for ENGLISH 1A placement.





# COUNSELING REPORT

Name:

Soc.Sec.#:

Address:

Telephone: (805)

Birthdate: Sex: FEMALE

Age: 35

English first language: YES

Ethnicity: AMERICAN INDIAN/ALASKAN NATIVE

Has learning disability: NO

Admission Status: NEW (FIRST TIME IN COLLEGE) Veteran: NO

# EDUCATIONAL BACKGROUND:

WOULD LIKE INFORMATION ABOUT:

High school education: HIGH SCHOOL DIPLOMA Highest degree: NO DEGREE AT THIS TIME Years out of school: MORE THAN 10 YEARS (7 Years of H.S. English: 3 YEARS IN H.S. Grade in last English class: C 🕖 High School G.P.A.: C- to C, 1.5 - 1.9 H.S. last attended: NOT SPECIFIED

Highest math completed: BASIC MATH

Grade in last math class: C Time since last math: 3-5 YEARS

RE-ENTRY PROGRAM CAREER PLANNING STUDY SKILLS READING SKILLS WRITING SKILLS

# COLLEGE PLANS: \_\_\_\_\_\_

Plan to attend: DAY

Units planned next term: LESS THAN 6 Units (+1 Employment hours planned: 1-10 HOURS/WEEK Educational goal: PERSONAL ENRICHMENT ONLY

Major: ENGLISH

Transfer college: NOT SPECIFIED

Importance of college to significant others: VERY IMPORTANT

Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12

Questions:

TEST			COR	RECT	ATT	EMPT		LOCAL
RESULTS:	TESTDATE	TEST TAKEN	#	४	#	%	ACCURACY	%-ILE
	03/07/95	WRITINGCEEB A	14	35%	39	98%	36%	21%
	03/07/95	ALGEBRA READINESS	1	2%	8	16%	13%	3%
	03/07/95	READINGCEEB A	7	20%	18	51%	39%	4%
	03/07/95	WRITING A ADJUST SCR	16					
	03/07/95	MATH AR ADJUSTED SCR	3					
	03/07/95	READING A ADJUST SCR	9					

#### COURSE PLACEMENTS:

WRITING: ENGLISH 50A (BASIC COMPOSITION AND MECHANICS) 03/07/95

03/07/95 MATH: MATH 60 (ARITHMETIC FUNDAMENTALS)

03/07/95 READING: ENGLISH 51A (INTERMEDIATE READING)

COMMEN'TS:

Impact on Writing Placement

Score change from 14 to 16 resulted in placement one level higher.



# COUNSELING PEPORT

Name:

Soc.Sec.#:

Address:

Telephone: (805)

Birthdate:

Age: 28

Sex: MALE

Ethnicity: WHITE/NOT OF HISPANIC ORIGIN

English first language: YES Has learning disability: NO

Admission Status: NEW (FROM OTHER COLLEGE)

Veteran: YES

# EDUCATIONAL BACKGROUND: ------

WOULD LIKE INFORMATION ABOUT:

VETERANS' PROGRAM CAREER PLANNING TRANSFERRIN TUTORING MATH SKILLS WRITING SKILLS

High school education: HIGH SCHOOL DIPLOMA Highest degree: NO DEGREE AT THIS, TIME Years out of school: 5-10 YEARS 🕖 Years of H.S. English: 4 YEARS IN H.S. Grade in last English class: B High School G.P.A.: B- to B, 2.5 - 2.9

H.S. last attended: OTHER CALIFORNIA HIGH SCHOOL

Highest math completed: GEOMETRY

Grade in last math class: C

Time since last math: MORE THAN 5 YEARS

# COLLEGE PLANS: ------

Plan to attend: DAY & EVENING

Units planned next term: 6-8 Units 10

Employment hours planned: 31-40 HOURS/WEEK

Educational goal: TWO YEAR DEGREE

Major: BUSINESS ADMINISTRATION/GENERAL BUSINESS (VERY SURE)

Transfer college: NOT SPECIFIED

Importance of college to significant others: VERY IMPORTANT

Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12 13

Questions: Α

TEST RESULTS:	TESTDATE	TEST TAKEN	COR #	RECT %	ATT #	TEMPT %	ACCURACY	LOCAL %-ILE
	03/07/95 03/07/95 03/07/95 03/07/95 03/07/95	WRITINGCEEB A ALGEBRA READINESS READINGCEEB A WRITING A ADJUST SCR MATH AR ADJUSTED SCR	31 31 30 32 33	78% 62% 86%	45	100% 90% 100%	78% 69% 86%	92% 97% 92%
	03/07/95	READING A ADJUST SCR	31					

# COURSE PLACEMENTS:

03/07/95 WRITING: ENGLISH 1A (FRESHMAN COMPOSITION)

03/07/95 MATH: MATH A, BUS 50 (FULLY PREPARED)

03/07/95 READING: COLLEGE LEVEL READING

COMMENTS: \_\_\_\_\_

Impact on Writing Placement

Score change from 31 to 32 resulted in ENGLISH 1A placement without

essay being read.



# Appendix 7 Reading Placement Examples ANTELOPE VALLEY COLLEGE

#### COUNSELING REPORT

Name:

Address:

Soc.Sec.#:

Telephone: (805)

Birthdate:

Age: 36

Sex: MALE

English first language: YES

Ethnicity: HISPANIC

Has learning disability: NO

Admission Status: NEW (FIRST TIME IN COLLEGE) Veteran: YES

EDUCATIONAL BACKGROUND: \_\_\_\_\_\_

WOULD LIKE INFORMATION ABOUT:

High school education: HIGH SCHOOL DIPLOMA Highest degree: NO DEGREE AT THIS TIME Years out of school: MORE THAN 10 YEARS [+1] Years of H.S. English: 3 YEARS IN H. Grade in last English class: B (4)

High School G.P.A.: C to B-, 2.0 2.4

H.S. last attended: OTHER CALIFORNIA HIGH SCHOOL

Highest math completed: BASIC MATH

Grade in last math class: C

Time since last math: MORE THAN 5 YEARS

COLLEGE PLANS: \_\_\_\_\_

JOB PLACEMENT VETERANS' PROGRAM

E.O.P.S.

ORIENTATION TO COLLEGE

CAREER PLANNING

FINANCIAL AID

COUNSELING TRANSFERRING TUTORING STUDY SKILLS MATH SKILLS READING SKILLS

WRITING SKILLS

Plan to attend: EVENING

Units planned next term: 12 Units OR MORE Employment hours planned: 31-40 HOURS/WEEK Ø Educational goal: TRANSFER TO A 4 YEAR COLLEGE

Major: GENERAL EDUCATION/LIBERAL STUDIES (VERY SURE)

Transfer college: CSU, BAKERSFIELD

Importance of college to significant others: VERY IMPORTANT

Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12 13 14

Questions: Α

TEST			COR	RECT	ATT	EMPT		LOCAL
RESULTS:	TESTDATE	TEST TAKEN	#	%	#	%	ACCURACY	%-ILE
	03/07/95	WRITINGCEEB A	19	48%	24	60%	79%	45%
	03/07/95	ALGEBRA READINESS	16	32%	27	54%	59%	56%
	03/07/95	READINGCEEB A	15	43%	17	49%	888	25%
	03/10/95	ESSAY	4					
	03/07/95	WRITING A ADJUST SCR	21					
	03/07/95	MATH AR ADJUSTED SCR	17					
	03/07/95	READING A ADMIST SCR	17					

# COURSE PLACEMENTS: \_\_\_\_\_

03/07/95 WRITING: ENGLISH 50A (BASIC COMPOSITION AND MECHANICS)

03/07/95 MATH: MATH 50

03/07/95 READING: ENGLISH 51A (INTERMEDIATE READING)

Impact on Reading Placement COMMENTS:

> None - Score change from 15 to 17 not enough - score of 18 necessary for next level placement.



# COUNSELING REPORT

Name:

Address:

Soc.Sec.#:

Telephone: (805)

Birthdate:

Age: 29

Sex: MALE

English first language: YES

WOULD LIKE INFORMATION ABOUT:

ORIENTATION TO COLLEGE

FINANCIAL AID

TOB PLACEMENT

RE-ENTRY PROGRAM

WORK EXPERIENCE

CHOOSING A MAJOR

CAREER PLANNING

WRITING SKILLS

CHILD CARE

COUNSELING

MATH SKILLS READING SKILLS

TUTORING STUDY SKILLS

Ethnicity: WHITE/NOT OF HISPANIC ORIGIN

Has learning disability: NO

Admission Status: NEW (FIRST TIME IN COLLEGE) Veteran: NO

EDUCATIONAL BACKGROUND: \_\_\_\_\_

High school education: G.E.D.

Highest degree: NO DEGREE AT THIS TIME Years out of school: MORE THAN 10 YEARS († 1)

Years of H.S. English: 2 YEARS IN H.S.

Grade in last English class: C 💋

High School G.P.A.: B- to B, 2.5 - 2.9

H.S. last attended: DESERT WINDS HIGH SCHOOL

Highest math completed: BASIC MATH

Grade in last math class: B

Time since last math: MORE THAN 5 YEARS

COLLEGE PLANS:

Plan to attend: DAY & EVENING

Units planned next term: 9-11 Units

Employment hours planned: 11-20 HOURS/WEEK Ø

Educational goal: TWO YEAR DEGREE

Major: ELECTRONICS TECHNOLOGY (VERY SURE)

Transfer ccllege: NOT SPECIFIED

Importance of college to significant others: VERY IMPORTANT

Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12 13

Questions: Α ATTEMPT OCAL CORRECT TEST ACCURACY %-ILE RESULTS: TESTDATE TEST TAKEN \_\_\_\_\_ 22 55% 37 93% 03/07/95 WRITING--CEEB A 59% 50% 03/07/95 ALGEBRA READINESS 20 40% 37 74% 54% 82% 17 49% 23 66% 74% 33% 03/07/95 READING--CEEB A 03/10/95 ESSAY 4 03/07/95 WRITING A ADJUST SCR 23

COURSE PLACEMENTS:

03/07/95 WRITING: ENGLISH 50A (BASIC COMPOSITION AND MECHANICS)

03/07/95 MATH: MATH 50

READING: ENGLISH 51B (CRITICAL READING SKILLS) 03/07/95

COMMENTS:

Impact on Reading Placement

03/07/95 MATH AR ADJUSTED SCR 03/07/95 READING A ADJUST SCR

Score change from 17 to 18 resulted in placement one level higher.

#### COUNSELING REPORT

Name:

Soc.Sec.#:

Address:

Telephone: (805)

Birthdate: Sex: FEMALE Age: 19

Ethnicity: WHITE/NOT OF HISPANIC ORIGIN

English first language: YES

Has learning disability: NO

Admission Status: NEW (FIRST TIME IN COLLEGE) Veteran: NO

EDUCATIONAL BACKGROUND:

WOULD LIKE INFORMATION ABOUT: •

> CHOOSING A MAJOR TRANSFERRING STUDY SKILLS MATH SKILLS

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High school education: HIGH SCHOOL DIPLOMA Highest degree: NO DEGREE AT THIS TIME Years out of school: LESS THAN 1 YEAR  $\phi$ Years of H.S. English: 4 YEARS IN H.S.

Grade in last English class: B High School G.P.A.: B to A-, 3.0 - 3.4

H.S. last attended: ANTELOPE VALLEY ADULT SCHOOL

Highest math completed: ALGEBRA I

Grade in last math class: F Time since last math: 3-5 YEARS

COLLEGE PLANS: ----------

Plan to attend: DAY

Units planned next term: 9-11 Units Employment hours planned: NONE (1)

Educational goal: TRANSFER TO A 4 YEAR COLLEGE Major: UNDECLARED MAJOR--UNDECIDED (UNSURE)

Transfer college: NOT SPECIFIED

Importance of college to significant others: VERY IMPORTANT

Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12 13

Questions: Α

TEST		COR	RECT	ATT	TEMPT		LOCAL	
RESULTS:	TESTDATE	TEST TAKEN	#	%	#	%	ACCURACY	%-ILE
	03/07/95	WRITINGCEEB A	31	78%	40	100%	78%	92%
	03/07/95	ALGEBRA READINESS	19	38%	31	62%	61%	71%
	03/07/95	READINGCEEB A	27	77%	35	100%	77%	79%
	03/07/95	WRITING A ADJUST SCR	32					
	03/07/95	MATH AR ADJUSTED SCR	20					
	03/07/95	READING A ADJUST SCR	29					

COURSE PLACEMENTS:

03/07/95 WRITING: ENGLISH 1A (FRESHMAN COMPOSITION)

03/07/95 MATH: MATH 50

READING: COLLEGE LEVEL READING 03/07/95

Impact on Reading Placement COMMENTS:

Score change from 27 to 29 resulted in placement one level higher.

# Appendix 8 Math Placement Examples ANTELOPE VALLEY COLLEGE

#### COUNSELING REPORT

Name:

Soc.Sec.#:

Address:

Telephone: (805)

Birthdate: Sex: MALE

Age: 15

English first language: YES

Has learning disability: NO

Admission Status: NEW (FIRST TIME IN COLLEGE) Veteran: NO

EDUCATIONAL BACKGROUND:

WOULD LIKE INFORMATION ABOUT: \_\_\_\_\_\_\_

> CHOOSING A MAJOR CAREER PLANNING MATH SKILLS WRITING SKILLS

High school education: H.S. PROFICIENCY Highest degree: NO DEGREE AT THIS TIME Years out of school: STILL IN SCHOOL 9 Years of H.S. English: 3 YEARS IN H.S.

Ethnicity: WHITE/NOT OF HISPANIC ORIGIN

Grade in last English class: A

High School G.P.A.: B to A-, 3.0 - 3.4 († )

H.S. last attended: OTHER CALIFORNIA HIGH SCHOOL

Highest math completed: ALGEBRA II (1)

Grade in last math class: B

Time since last math: CURRENTLY ENROLLED IN MATH

COLLEGE PLANS: \_\_\_\_\_

Plan to attend: DAY

Units planned next term: 9-11 Units 1 Employment hours planned: 1-10 HOURS/WEEK

Educational goal: TRANSFER TO A 4 YEAR COLLEGE

Major: PRE MEDICINE (UNSURE)

Transfer college: PRIVATE COLLEGE OR UNIVERSITY

Importance of college to significant others: VERY IMPORTANT Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Ouestions:

TEST				RECT	ATT	EMPT		LOCAL	
RESULTS:	TESTDATE	TEST TAKEN	#	%	#	%	ACCURACY	%-ILE	
	03/07/95	WRITINGCEEB A	31	78%	40	100%	78%	92%	
	03/07/95	INTERMEDIATE ALGEBRA C	24	53%	31	69%	77%	50%	
	03/07/95	READINGCEEB A	30	86%	35	100%	86%	92%	
	03/07/95	WRITING A ADJUST SCR	32						
	03/07/95	MATH IA ADJUSTED SCR	27						
	03/07/95	READING A ADJUST SCR	31						

COURSE PLACEMENTS: \_\_\_\_\_\_

> WRITING: ENGLISH 1A (FRESHMAN COMPOSITION) 03/07/95

03/07/95 MATH: MATH D,6,14,15, CIS 41 (RECOMMEND MATH C)

03/07/95 READING: COLLEGE LEVEL READING

COMMENTS:

Impact on Math Placement

None - need to take Precalculus test to achieve higher placement.

# COUNSELING REPORT

Name:

Soc.Sec.#:

Address:

Telephone: (805)

Birthdate:

Age: 18

English first language: YES

Has learning disability: NO

Sex: FEMALE

Ethnicity: HISPANIC

Admission Status: CONTINUING AT THIS COLLEGE Veteran: NO

EDUCATIONAL BACKGROUND: ------

WOULD LIKE INFORMATION ABOUT:

CHOOSING A MAJOR

COUNSELING STUDY SKILLS WRITING SKILLS

Years of H.S. English: 4 YEARS IN H.S.

Grade in last English class: B

High School G.P.A.: B to A-, 3.0 - 3.4 H.S. last attended: HIGHLAND HIGH SCHOOL

High school education: HIGH SCHOOL DIPLOMA

Highest math completed: BASIC MATH •

Highest degree: NO DEGREE AT THIS TIME

Years out of school: STILL IN SCHOOL  $oldsymbol{arphi}$ 

Grade in last math class: B (1)

Time since last math: LESS THAN 1 YEAR

COLLEGE PLANS:

Plan to attend: DAY & EVENING

Units planned next term: 6-8 Units (+1)

Employment hours planned: 11-20 HOURS/WEEK Educational goal: TRANSFER TO A 4 YEAR COLLEGE

Major: ADMINISTRATION OF JUSTICE (VERY SURE)

Transfer college: UC, SANTA BARBARA

Importance of college to significant others: VERY IMPORTANT

Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12 13

Questions: Α

TEST CORRECT ATTEMPT LOCAL RESULTS: TESTDATE TEST TAKEN ACCURACY %-ILE -----\_\_\_\_\_ ----03/07/95 WRITING--CEEB A
03/07/95 ALGEBRA READINESS
03/07/95 READING--CEEB A 13 33% 36 90% 36% 13% 11 22% 50 100% 22% 35% 16 46% 34 97% 47% 28% 03/07/95 WRITING A ADJUST SCR 14 03/07/95 MATH AR ADJUSTED SCR 14 03/07/95 READING A ADJUST SCR

COURSE PLACEMENTS:

03/07/95 WRITING: LEARNING SKILLS 90 (BASIC SKILLS INSTRUCTION)

03/(7/95 MATH: MATH 50

03/07/95 READING: ENGLISH 51A (INTERMEDIATE READING)

COMMENTS: Impact on Math Placement

> None - score change from 11 to 14 not enough - score of 23 needed for next placement level.



#### COUNSELING REPORT

Name:

Soc.Sec.#:

Address:

Telephone: (805)

Birthdate:

Age: 39

English first language: YES Has learning disability: NO

Sex: FEMALE

Ethnicity: WHITE/NOT OF HISPANIC ORIGIN

Admission Status: RETURNING TO THIS COLLEGE

Veteran: NO

EDUCATIONAL BACKGROUND: \_\_\_\_\_\_\_

WOULD LIKE INFORMATION ABOUT: 

JOB PLACEMENT

LEARNING DISABILITIES

RE-ENTRY PROGRAM

CAREER PLANNING

COUNSELING

STUDY SKILLS

Grade in last English class: B

High School G.P.A.: B to A-, 3.0 - 3.4

High school education: HIGH SCHOOL DIPLOMA

Highest degree: NO DEGREE AT THIS TIME

Years of H.S. English: 4 YEARS IN H.S.

Years out of school: LESS THAN 1 YEAR 🍎

H.S. last attended: OTHER CALIFORNIA HIGH SCHOOL

Highest math completed: GEOMETRY(†1)

Grade in last math class B(+1)

Time since last math: MORE THAN 5 YEARS

COLLEGE PLANS: \_\_\_\_\_\_\_\_\_\_

Plan to attend: DAY & EVENING

Units planned next term: 6-8 Units

Employment hours planned: 21-30 HOURS/WEEK

Educational goal: VOCATIONAL TRAINING/CERTIFICATE

Major: SOCIAL SCIENCES (FAIRLY SURE)

Transfer college: NOT SPECIFIED

Importance of college to significant others: SOMEWHAT IMPORTANT

Importance of college to self: VERY IMPORTANT

Additional #1 2 3 4 5 6 7 8 9 10 11 12 13

Questions: Α

TEST RESULTS:	TESTDATE	TEST TAKEN	COR #	RECT %	ATT	rempt %	ACCURACY	LOCAL %-ILE	
	03/07/95	WRITINGCEEB A	30	75%	40	100%	75%	82%	
	03/07/95	ALGEBRA READINESS	19	38%	23	46%	83%	71%	
	03/07/95	READINGCEEB A	18	51%	35	100%	51%	38%	
	03/10/95	ESSAY	8						
	03/07/95	WRITING A ADJUST SCR	31						
	03/07/95	MATH AR ADJUSTED SCR	23						
	03/07/95	READING A ADJUST SCR	19						

COURSE PLACEMENTS:

03/07/95 WRITING: ENGLISH 1A (FRESHMAN COMPOSITION) 03/07/95 MATH: MATH A, BUS 50 (RECOMMEND MATH 50)

03/07/95 READING: ENGLISH 51B (CRITICAL READING SKILLS)

COMMENTS:

Impact on Math Placement

Score change from 19 to 23 resulted in placement one level higher.



# **CUTOFF SCORES FOR PLACEMENT EXAMS**

# CUTOFF SCORES FOR WRITING PLACEMENT EXAMS

If your Adjusted Writing Score is:	and your Essay Score is:	You Qualify for:
0-14	NA*	Learning Skills 90 - Developmental Learning Skills
15-20	NA*	English 50A - Basic Composition
. 21-23	0-5	English 50A - Basic Composition
21-23	6-8	English 50B - Intermediate Composition
24-25	NA*	English 50B - Intermediate Composition
26-31	0-7	English 50B - Intermediate Composition
26-31	8	English 1A - Freshman Composition
32-40	NA*	English 1A - Freshman Composition

NA = Essay not utilized

# CUTOFF SCORES FOR READING PLACEMENT EXAMS

If your Adjusted I	Reading Score is: SDRT	You Qualify for:
0-8	0-41	Learning Skills 90 - Developmental Learning Skills
9-17	42-49	English 51A - Intermediate Reading
18-27	50-52	English 51B - Critical Reading & Study Skills
28-35	53-60	College Level Reading (no course)

# CUTOFF SCORES FOR MATH PLACEMENT EXAM

If your Adjusted Math Test Score is:	You Qualify for:			
Algebra Readiness Test				
0-10	Math 60			
11-22	Math 50			
23-30	Math A; Bus 50 (Recommend Math 50)			
31-44	Math A; Bus 50 (Fully prepared)			
45-50	Math A; Bus 50 (Recommend Elementary Algebra Test)			
======================================				
0-6	Math 50			
7-14	Math A; Bus 50 (Recommend Math 50)			
15-19	15-19 Math A; Bus 50 (Fully prepared)			
20-24	Math B,C; Elect 40A (Recommend Math A)			
25-44	25-44 Math B,C; Elect 40A (Fully prepared)			
45-50	Math B.C: Elect 40A (Recommend Intermediate Algebra Test)			



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# CUTOFF SCORES FOR MATH PLACEMENT EXAM (continued)

If your Adjusted Math Test Score is:	You Qualify for:		
* Intermediate Algebra Test	· · · · · · · · · · · · · · · · · · ·		
0-9	Math A; Bus 50 (Recommend Math 50)		
10-12	Math A; Bus 50 (Recommend Elementary Algebra Test)		
13-15	Math B,C; Elect 40A (Recommend Math A)		
16-20	Math B,C; Elect 40A (Fully prepared)		
21-31	Math D, 6, 14, 15; CIS 41 (Recommend Math C)		
32-43	Math D, 6, 14, 15; CIS 41 (Fully prepared)		
44-45	Math D, 6, 14, 15; CIS 41 (Recommend Precalculus Test)		
======================================	:		
0-8	Take Intermediate Algebra Test		
9-10	Math B,C; Elect 40A (Fully prepared)		
11-18	11-18 Math D, 6, 14, 15; CIS 41 (Recommend Math C)		
19-22	Math D, 5, 6, 14, 15; CIS 41 (Fully prepared)		
23-27	Math 7A (Recommend Math D, 6, 5)		
28-40	Math 7A (Fully prepared)		

# Antelope Valley College PREREQUISITE CHALLENGE FORM

Name: SS	N: Date Submitted:				
Phone: Street Address:					
City/State/Zip:  A Separate form must be completed for each course you wish to enter. This form must be submitted before the first day of the term. All forms must be submitted to the Counseling Center (Student Services Building).					
Course I wish to enter:	Prerequisite, corequisite, or limitation on enrollment I wish to challenge:				
<u>Challeng</u>	e Categories				
Check the box which applies to you:  Challenging the prerequisite, corequisite, or limitation on enrollment on the grounds that it has not been made reasonably available. The Division Dean or designee shall determine within 5 working days whether the required course was reasonably available, and if not, shall waive the prerequisite for the term. Students wishing to appeal the decision of the Division Dean or designee may do so by meeting with the Vice President of Academic Affairs or designee.					
Challenging the prerequisite, corequisite, or limitation on enrollment based on my knowledge or ability to succeed in the course despite not meeting the stated conditions of enrollment (student documentation required). I understand that I must attach documentary evidence in support of the challenge. The Division Dean will arrange for the Instructors who will evaluate the documentation and provide written notification to me within 5 working days. Students wishing to appeal the decision of the instructor may do so by meeting with the Division Dean.					
3. Challenging the prerequisite, corequisite, or limitation on enrollment on the grounds that it was established in violation of regulation or in violation of the District-approved processes (student documentation required). The Dean of Counseling or designee shall review the petition and provide written notification to the student within 5 working days. Students wishing to appeal the decision of the Dean of Counseling or designee may do so by meeting with the Vice President of Academic Affairs or designee.					
The prerequisite, corequisite, or limitation on enrollment is discriminatory or applied in a discriminatory manner (student documentation required). I understand that I must present documentary evidence to the Dean of Counseling or designee who will review the evidence and provide written notification to me within 5 working days. Students wishing to appeal the decision of the Dean of Counseling or designee may do so by meeting with the Vice President of Academic Affairs.					
Petition to Challenge (Attach Documentation)					
It is the responsibility of the student to provide compelling evidence to support the Challenge.					
I acknowledge that Antelope Valley College has determined that this prerequisite is necessary for success in the course and that I am taking personal responsibility for succeeding without this prerequisite.					
Student Signature: (My request must be made prior to the first day of the term.)  Upon completing this Challenge form you may enroll in the Challenge course by presenting this form at the Counseling Center during registration. If this Challenge is not upheld, you will be dropped from the course. If no space is available in the course when the Challenge is filed and, if the Challenge is upheld, you will be permitted to enroll in the subsequent term provided that space is available when you register.					
For Official Use Only: Action Taken:					
Comments: ————————————————————————————————————					
Reviewer's name:  Note: All forms are to be returned to the Office of the Dean of Counseling.  C:Vorms\prechall.pm5					



我们在我的意思的人生我们的人名 明明的人的女子的 大學不可能的 医无神经的复数形式

# PREREQUISITES, COREQUISITES, ADVISORIES ON RECOMMENDED PREPARATION, AND LIMITATIONS ON ENROLLMENT

### <u>Definitions</u>

Prerequisite - A condition of enrollment that a student is required to meet in order to demonstrate current readiness for enrollment in a course or educational program. A prerequisite will assure that a student has the skills, concepts, and/or information necessary for success in the course; on the other hand, a student who has not met the prerequisite is highly unlikely to receive a satisfactory grade in the course. Prerequisites are enforced and a student will be blocked from enrolling if the student does not meet the stated prerequisite (see below for challenge procedure).

Corequisite - A condition of enrollment consisting of a course that a student is required to simultaneously take in order to enroll in another course. Corequisites are enforced and a student will be blocked from enrolling if the student does not meet the stated prerequisite (see below for challenge procedure).

Advisory on recommended preparation - A condition of enrollment that a student is advised, but not required, to meet before or in conjunction with enrollment in a course or educational program.

Limitation on enrollment - A condition of enrollment which limits how students qualify for a particular course or program. These limitations apply to courses that include public performance or intercollegiate competition where a try-out or audition is necessary. Additionally, some courses require formal admission to a particular program in order to enroll (e.g., Associate Degree Nursing Program and Licensed Vocational Nursing Program). Limitations on enrollment are enforced and a student will be blocked from enrolling if the student does not meet the stated limitation (see below for challenge procedure).

#### Challenge Procedure

A prerequisite, corequisite, or limitation on enrollment challenge requires the submission of a <u>Prerequisite Challenge Form</u>. This form can be obtained from the Counseling Center in the Student Services Building. A student may file a <u>Prerequisite Challenge Form</u> for one or more of the following reasons.

- 1) A prerequisite or corequisite is not reasonably available;
- 2) The student believes the prerequisite was established in violation of regulation or in violation of the District-approved processes;
- The student believes the prerequisite is discriminatory or being applied in a discriminatory manner and has documentation for such a claim; or
- 4) The student has the <u>documented</u> knowledge or ability to succeed in the course without meeting the prerequisite.

Upon completing this challenge form the student may enroll in the challenge course by presenting this form at the Counseling Center during registration. If this challenge is not upheld, the student will be dropped from the course. If no space is available in the course when the challenge is filed and, if the challenge is upheld, the student will be permitted to enroll in the subsequent term provided that space is available at the time the student registers.



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